



Dr. Westphal

PATENT APPLICATION
MO-6476
LeA 34,678

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION OF

MARTIN MELCHIORS ET AL

SERIAL NUMBER: 09/928,853

FILED: AUGUST 13, 2001

TITLE: AQUEOUS DISPERSIONS

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GROUP NO.: 1711
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EXAMINER:
) RABON A. SERGENT
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DECLARATION OF MARTIN MELCHIORS UNDER 37 CFR 1.132

I, Martin Melchiors, residing at Leighlingen, D-42799 Germany, declare as follows:

1. I studied chemistry at the University of Aachen from 1987-1992;
2. I received the degree of doctor res. nat. at the University of Aachen in the year 1995; and
3. I have been employed by Bayer AG, D-51368 Leverkusen, Germany since 1995, and I have worked and performed research in the field of aqueous coating compositions since 1998. I am familiar with the subject matter of the captioned application, and I have read the Office Actions, including the current Office Action, and the references cited, U.S. Patent No. 5,126,393 ("Blum") and EP 0 159 117 B1 ("Hughes").

4. It is my well-considered opinion that the references cited in the present Office Action, when considered alone or in combination, do not render the claimed invention obvious.

5. The present invention is directed to an aqueous coating composition prepared as a dispersion in which a urethane-modified polyol and a pyrazole-blocked polyisocyanate are mixed together prior to preparation of the aqueous dispersion. At the time of the invention, aqueous dispersions were not prepared in this manner, i.e., the urethane-modified polyol was prepared in an aqueous dispersion, to which the crosslinker was added. This is the method shown in the examples of Blum.

6. It is asserted in the Office Actions that Blum teaches that the ingredients a) urethane-modified polyester, b) cross-linker and c) emulsifier, can be mixed in any order, as stated at column 7, lines 16-19 in the Blum patent. However, one skilled in the art would be guided in the interpretation of this statement by the evidence presented in the examples. In all examples, Blum shows creation of the dispersion prior to the addition of the crosslinker.

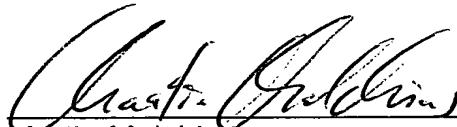
7. Blum uses melamine resins as the crosslinker. Melamine resins are easily dispersible in water – in contrast to blocked polyisocyanates (unless these are hydrophilically modified to make them water dispersible). Therefore, if one were to compare coatings of Blum prepared using melamine crosslinkers, where in one case the dispersion was created after the addition of the crosslinker, and in one case the dispersion was created before the addition of the crosslinker (as in the examples in the patent), there would likely be no difference in the coating. This comparison makes no sense, however, because melamine resins are easily dispersible in water. The important comparison is using crosslinkers that are not easily dispersible in water, in particular blocked polyisocyanates, as in the present invention.

8. We have provided comparative data in two previous declarations showing that is not possible to obtain a stable dispersion based on polyisocyanates which are blocked with pyrazole derivatives, if the dispersions are prepared according the teachings of Blum and the blocked cross-linker is added after creation of the dispersion. Using urethane-modified polyols which are representative of the type of polyols used in Blum, we have shown that the order of addition of the pyrazole-blocked polyisocyanate is critical. As noted above, it is not possible to provide a direct comparison with the cross-linking materials used in Blum, as Blum uses melamine resins.

9. Hughes is cited as further evidence of what one skilled in the art knew at the time of this invention. A single sentence is pointed to as evidence that one skilled in the art knew how to use the blocking agents of the present invention in aqueous systems. We do not disagree that Hughes discloses use of the claimed blocking agents in aqueous systems, but it says nothing to one skilled in the art about how to prepare the aqueous dispersion; it is entirely silent in this regard. No explanation or examples are provided which actually describe preparation of the dispersion. The cited sentence at page 4, lines 4-5, which states "These paints are usually composed of a pigment dispersed in an aqueous dispersion of a resin containing active hydrogen *which is to be crosslinked by the polyisocyanate* (emphasis added)" in fact shows that the cross-linker is added after the creation of the dispersion, not before, as asserted in the Office Action. As noted above, at the time of invention, it was not known how to prepare aqueous dispersions using the pyrazole-blocked crosslinkers of the present invention.

10. Thus, based on the above reasoning, it is my well considered opinion that the present invention is not obvious in view of Blum or Hughes, either reference considered alone or in combination with the other.

11. I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code, and the such willful false statements may jeopardize the validity of the application or any patent issuing thereon.



Martin Melchior

2001-03-20
Date

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